

SC-100

Control Module
for Resistive Sensors

SLIMLINE

MONITORING RELAYS



ORDERING CODE

TYPE	MODEL	VOLTAGE	POWER SUPPLY	RELAY CONTACTS
SC	100	230V	AC	SP

SEE PAGE 94 FOR ORDERING OPTIONS

Application Examples

- Single-point level control of conductive materials.
- High or low level alarm for conductive materials.
- Daylight switch or flame detector in conjunction with Light Dependent Resistors (LDR).
- Detection of the absence of conductive liquids in metal pipes (boiler systems).
- Monitoring of soil moisture in agricultural irrigation systems.
- Safe, low voltage, remote stop or start control over extended distances.

Features

- AC modulation of probe signal to prevent plating and electrolytic corrosion.
- Low voltage probe signal for human safety.
- Adjustable sensitivity from 15k to 500k Ohm.
- 10A SPDT relay output.

Description of Operation

The **SC-100** senses conductivity between two probe terminals, providing a relay output if conductivity exceeds the setpoint. It is therefore suitable as a low cost solution for a variety of applications where the level of conductivity needs to be monitored without extreme precision.

Liquid Level Control: In conjunction with two conductive probes (e.g. CP-2C) it controls the level of conductive liquids or provides a high/low level alarm output. When the probes are dry, the relay of the SC-100 will be off. As soon as the level of the liquid rises sufficiently to touch the probes, the relay will energise. Sensitivity can be adjusted to tune out the effects of foam, condensation or long distance wire impedance.

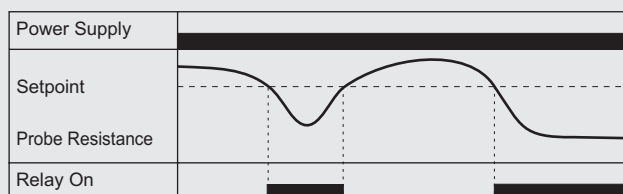
Flame Detector/ Daylight Switch: In conjunction with a suitable Light Dependent Resistor (LDR) the unit can monitor light intensity. When the light intensity drops below the set value, the relay energises. The unit can thus be applied to monitor the flame in a burner or control security lights when the sun sets.

Temperature Control: In conjunction with a suitable thermistor, the unit can monitor temperature, providing a relay output if the temperature drops below or exceeds the setpoint.

Soil Moisture Monitoring: In conjunction with two suitable conductive probes, the moisture content of soil can be monitored. When the soil is dry, the relay will be de-energised. The conductivity of the soil increases with increase in moisture. When the conductivity rises above the setpoint, the relay energises.

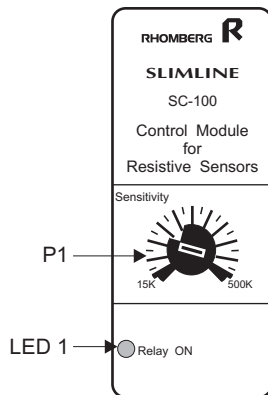
Remote Start or Stop: Were a remote start or stop is required and the cable length or size is a problem, the SC-100 offers a cost saving solution. Due to its 500k sensitivity, high cable impedance problems are solved.

Operational Diagram





Description of Controls



P1: The Sensitivity of the Probe is adjusted on P1. Turning P1 clockwise increases the threshold resistance at which the unit switches.

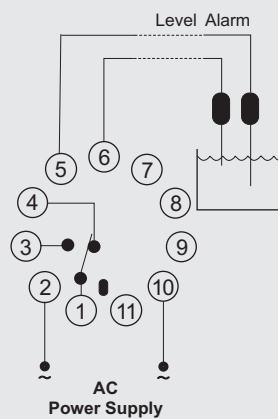
LED 1: The LED marked “**Relay ON**” illuminates when the relay is energised.

Wiring and Connection

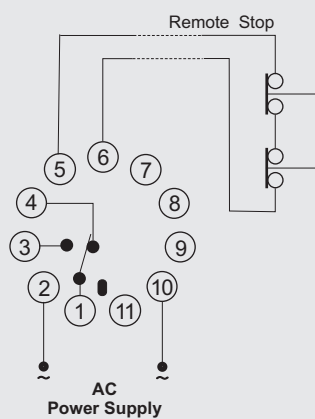
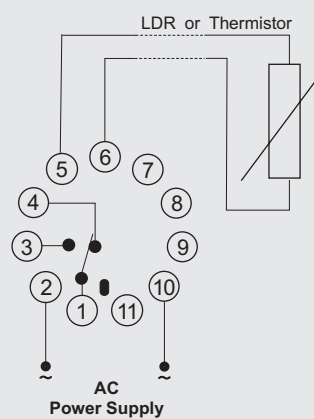
Power Supply	
Phase/ Positive	2
Neutral/ Negative	10

Relay contacts	
Normally open	1+3
Normally closed	1+4

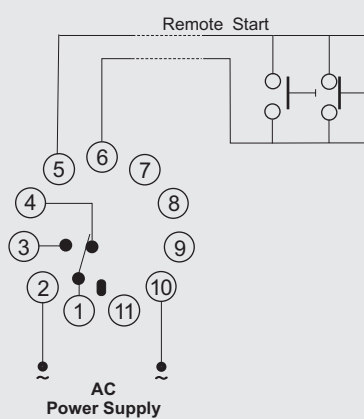
Conductive Probes
To be connected between pins 5 and 6.



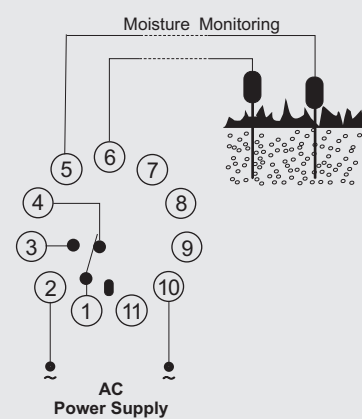
OR



OR



OR



Technical Specifications

POWER SUPPLY

(AC only - see SC-130 for DC applications)
Supply voltage: 12, 24, 110, 230, 400, 415, 525V AC $\pm 15\%$
Isolation (probe input to power supply): 2kV
Power consumption: 3VA (approx.)
6VA for 415, 525V (approx.)

PROBE INPUT

Sensitivity: approx. 15 - 500k Ohm (adjustable).
Probe voltage: 12V AC.
Probe frequency: 50Hz.

Additional information in Section J, page 131.